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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Farid Adrangi

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59796

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02/24/2009

INTEL CORPORATION

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EXAMINER

O CONNOR, BRIAN T

ART UNIT

PAPER NUMBER

2419

MAIL DATE

DELIVERY MODE

02/24/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/723,813	<b>Applicant(s)</b> ADRANGI ET AL.	
	<b>Examiner</b> BRIAN T. O'CONNOR	<b>Art Unit</b> 2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-14, 16-23 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14, 16-23 and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This office action is in response to applicant's amendment filed on 10/31/2008.
2. Claims 1-5, 7-14, 16-23, and 25-27 are currently pending.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuan (US 6,496,704) in view of Perkins (Perkins, "IP Mobility Support for IPv4", RFC3344, IETF, August 2002) and further in view of Magret (US 6,856,624) and further in view of Song et al (US 7,065,067; hereafter Song) and further in view of Johnson et al. (US 6,625,135; hereafter Johnson).

**With respect to claims 1 and 10**, Yuan discloses a system and technique for mobile systems (24 of Figure 1; column 1, lines 45-54; where the mobile system is viewed as equivalent to a mobile node) to register in an internal network (22 of Figure 1) or an external network (32 of Figure 1) by using a DHCP server (column 5, lines 14-20; where the mobile node must issue a DHCP request to obtain an address). The mobile system or host will send a registration request from a home agent or HA with the HA address (100 of Figure 5) and then register with the HA (MOBILE HOST, HA, 90 of

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Figure 4). Yuan also discloses that the mobile system will roam from an Ethernet (internal) network to a cellular (external) network (Figure 6; column 9, lines 23-37).

Yuan also discloses that the mobile unit can move to an external network (118, 112, 138 of Figure 6) and continue to issue DHCP requests (column 5, lines 14-20; where the mobile node must issue a DHCP request to obtain an address) that reply with addresses for additional HAs.

Yuan fails to disclose extensions with the registration reply that identify the HA as part of an internal network or an external network and an extension as an internal registration reply extension or an external registration reply extension; and that the mobile unit will register with a second HA if the registration fails for a first HA attempt.

Perkins discloses a mobile IP registration reply with extensions (section 3.4, pg 33; UDP header diagram, pg 34) and three different types of extension: Mobile-Home (32), Mobile-Foreign (33), and Foreign-Home (34) (sections 3.5.2, 3.5.3, 3.5.4, pg 37-38; where the Mobile-Home is an internal extension and the Foreign-Home is an external extension). In addition, Perkins discloses that when a mobile node has multiple HA addresses and if the first registration fails then the mobile node will try to register with the next HA address (first paragraph, pg 26).

Perkins realizes the advantage of increased security by using security parameters, authenticators, and extension types with a registration reply (first paragraph, pg 37). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extensions of Perkins with the system and method of Yuan.

One of ordinary skill in the art would realize the benefit of increased connectivity for mobile units by continuing to attempt registration in the even of one failure. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use this method of Perkins with the system and method of Yuan.

Yuan also fails to disclose examining the registration reply to identify an extension and determining if the mobile node/system is on an internal network or an external network.

Magret, in an invention of Mobile IP registration, discloses a mobile node that receives a registration reply (122 of Figure 7) and examines the reply to decide if a foreign agent was the sender (128 of Figure 7; column 9, line 66 – column 10, line 7). One of ordinary skill in the art would realize the same procedure would be used to decide if the reply arrived from an external or internal network.

Magret realizes the advantage of avoiding duplicate and ambiguous IP address by checking whether the registration reply is from a foreign (external) agent. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use this method of Magret with the system and method of Yuan.

Yuan does not disclose a first DHCP server and a second DHCP server in two separate networks.

Song discloses a first DHCP server (24 of Figure 1) in a first network and a second DHCP server (34 of Figure 1) in a second network (column 5, lines 10-14) for supporting IP address assignment to mobile nodes (column 5, lines 15-24).

The use of DHCP servers in separate networks as taught by Song is a known technique in the art and would be used to support DHCP requests in mobile networks. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the DHCP servers as taught by Song with the method of Yuan.

Yuan does not disclose attempting to request with an address for a first home agent and then upon failure to register with the first home agent issuing a second DHCP request.

Johnson discloses a mobile registration request (Abstract) that tries to register with an address for a first home agent (68 of Figure 10; ACQUIRE to CARE-OF-WAIT) and then upon failure to register with the first home agent issuing a second DHCP request (68 of Figure 10; CARE-OF-WAIT to ACQUIRE).

The use of multiple registration attempts as taught by Johnson is a known technique in the art and would be used to support DHCP requests in mobile networks. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the multiple registration attempts as taught by Johnson with the method of Yuan.

**With respect to claim 2**, Yuan further discloses the HA is in the home or internal network (70, 62 of Figure 3).

**With respect to claim 11**, Yuan further discloses the HA is in the home or internal network (70, 62 of Figure 3).

Yuan fails to disclose an extension as an internal registration reply extension or an external registration reply extension.

Perkins discloses a mobile IP registration reply with extensions (section 3.4, pg 33; UDP header diagram, pg 34) and three different types of extension: Mobile-Home (32), Mobile-Foreign (33), and Foreign-Home (34) (sections 3.5.2, 3.5.3, 3.5.4, pg 37-38).

Perkins realizes the advantage of increased security by using security parameters, authenticators, and extension types with a registration reply (first paragraph, pg 37). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extensions of Perkins with the system and method of Yuan.

**With respect to claims 3 and 12**, Yuan further discloses that the mobile system or node may be on a home or internal network (62 of Figure 3) or a foreign or external network (64 of Figure 3).

Yuan fails to disclose an extension as an internal registration reply extension or an external registration reply extension.

Perkins discloses a mobile IP registration reply with extensions (section 3.4, pg 33; UDP header diagram, pg 34) and three different types of extension: Mobile-Home (32), Mobile-Foreign (33), and Foreign-Home (34) (sections 3.5.2, 3.5.3, 3.5.4, pg 37-38).

Perkins realizes the advantage of increased security by using security parameters, authenticators, and extension types with a registration reply (first paragraph, pg 37). Thus it would have been obvious to one of ordinary skill in the art at

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the time of the invention to use the extensions of Perkins with the system and method of Yuan.

**With respect to claims 4 and 13**, Yuan further discloses an MDIS device (152 of Figure 7) which acts as an encapsulation device for protocol tunneling. Yuan describes this technique and system as a virtual private network (VPN) connection (column 11, line 60 – column 12, line 8) and it must include a registration reply with a VPN address to the mobile unit can perform the encapsulation of data packets.

**With respect to claims 5 and 14**, Yuan further discloses that when the mobile unit (118 of Figure 8) is using a default HA on an external network (154 of Figure 8) then the encapsulation and VPN technique is used (162, 166 of Figure 8) and the mobile unit must store the VPN address for the external home agent in order to conduct the encapsulation technique.

**With respect to claims 7 and 16**, Yuan further discloses a situation where the second home agent is a foreign or external home agent (178 of Figure 9).

**With respect to claims 8 and 17**, Yuan further discloses that when the mobile node (118 of Figure 7) is in an external network (112 of Figure 7) and the HA uses an internal address (154 of Figure 7), an MDIS device (152 of Figure 7) which acts as an encapsulation device is used for protocol tunneling. Yuan describes this technique and system as a virtual private network (VPN) connection (column 11, line 60 – column 12, line 8). Yuan also discloses using a secure connection with CDPD protocol (Figure 9; column 2, lines 46-58).



**With respect to claims 9 and 18**, Yuan further discloses completing registration (Figure 4) with the secure CPDP protocol (Figure 9; column 2, lines 46-58).

5. Claims 19-23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuan in view of Perkins in view of Magret and further in view of Song and further in view of Johnson and further in view of Kumar et al. (US 7,085,279 hereafter Kumar).

**With respect to claim 19**, Yuan discloses a method for mobile systems (24 of Figure 1; column 1, lines 45-54; where the mobile system is viewed as equivalent to a mobile node) to register in an internal network (22 of Figure 1) or an external network (32 of Figure 1) by using a DHCP server (column 5, lines 14-20; where the mobile node must issue a DHCP request to obtain an address). The mobile system or host will send a registration request from a home agent or HA with the HA address (100 of Figure 5) and then register with the HA (MOBILE HOST, HA, 90 of Figure 4). Yuan also discloses that the mobile system will roam from an ethernet (internal) network to a cellular (external) network (Figure 6; column 9, lines 23-37). Yuan also discloses that the mobile unit can move to an external network (118, 112, 138 of Figure 6) and continue to issue DHCP requests (column 5, lines 14-20; where the mobile node must issue a DHCP request to obtain an address) that reply with addresses for additional HAs.

Yuan fails to disclose extensions with the registration reply that identify the HA as part of an internal network or an external network and an extension as an internal

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registration reply extension or an external registration reply extension; and that the mode unit will register with a second HA if the registration fails for a first HA attempt.

Perkins discloses a mobile IP registration reply with extensions (section 3.4, pg 33; UDP header diagram, pg 34) and three different types of extension: Mobile-Home (32), Mobile-Foreign (33), and Foreign-Home (34) (sections 3.5.2, 3.5.3, 3.5.4, pg 37-38; where the Mobile-Home is an internal extension and the Foreign-Home is an external extension). In addition, Perkins discloses that when a mobile node has multiple HA addresses and the first registration fails then the mobile node will try to register with the next HA address (first paragraph, pg 26) in the group of HA addresses.

Perkins realizes the advantage of increased security by using security parameters, authenticators, and extension types with a registration reply (first paragraph, pg 37). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extensions of Perkins with the system and method of Yuan.

One of ordinary skill in the art would realize the benefit of increased connectivity for mobile units by continuing to attempt registration in the even of one failure. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use this method of Perkins with the method of Yuan.

Yuan also fails to disclose examining the registration reply to identify an extension and determining if the mobile node/system is on an internal network or an external network.

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Magret, in an invention of Mobile IP registration, discloses a mobile node that receives a registration reply (122 of Figure 7) and examines the reply to decide if a foreign agent was the sender (128 of Figure 7; column 9, line 66 – column 10, line 7). One of ordinary skill in the art would realize the same procedure would be used to decide if the reply arrived from an external or internal network.

Magret realizes the advantage of avoiding duplicate and ambiguous IP address by checking whether the registration reply is from a foreign (external) agent. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use this method of Magret with the system and method of Yuan.

Yuan does not disclose a first DHCP server and a second DHCP server in two separate networks.

Song discloses a first DHCP server (24 of Figure 1) in a first network and a second DHCP server (34 of Figure 1) in a second network (column 5, lines 10-14) for supporting IP address assignment to mobile nodes (column 5, lines 15-24).

The use of DHCP servers in separate networks as-taught by Song is a known technique in the art and would be used to support DHCP requests in mobile networks. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the DHCP servers as taught by Song with the method of Yuan.

Yuan does not disclose attempting to request with an address for a first home agent and then upon failure to register with the first home agent issuing a second DHCP request.

Johnson discloses a mobile registration request (Abstract) that tries to register with an address for a first home agent (68 of Figure 10; ACQUIRE to CARE-OF-WAIT) and then upon failure to register with the first home agent issuing a second DHCP request (68 of Figure 10; CARE-OF-WAIT to ACQUIRE).

The use of multiple registration attempts as taught by Johnson is a known technique is the art and would be used to support DHCP requests in mobile networks. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the multiple registration attempts as taught by Johnson with the method of Yuan.

Yuan fails to disclose a computer or machine readable medium with instructions to perform his method.

Kumar, in the same field of endeavor, discloses a computer readable medium storing a program to perform a connection setup over a packet network in conjunction with a switching network. The computer-readable medium is an electronic, magnetic, optical, or other physical device or means that can be contain or store a computer program for use by or in connection with a computer-related system or method (column 7, lines 51-67). One skilled in the art would have clearly recognized that the method of Yuan would have been implemented in a software module. The implemented software would perform the function with less expense and more flexibility. Therefore, it would have been obvious to have used the technique in Yuan and implement it as taught by Kumar in order to reduce cost and improve the adaptability and flexibility of the networking system.

**With respect to claim 20**, Yuan further discloses the HA is in the home or internal network (70, 62 of Figure 3).

**With respect to claim 21**, Yuan further discloses that the mobile system or node may be on a home or internal network (62 of Figure 3) or a foreign or external network (64 of Figure 3).

Yuan fails to disclose an extension as an internal registration reply extension or an external registration reply extension.

Perkins discloses a mobile IP registration reply with extensions (section 3.4, pg 33; UDP header diagram, pg 34) and three different types of extension: Mobile-Home (32), Mobile-Foreign (33), and Foreign-Home (34) (sections 3.5.2, 3.5.3, 3.5.4, pg 37-38).

Perkins realizes the advantage of increased security by using security parameters, authenticators, and extension types with a registration reply (first paragraph, pg 37). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extensions of Perkins with the method of Yuan.

**With respect to claim 22**, Yuan further discloses an MDIS device (152 of Figure 7) which acts as an encapsulation device for protocol tunneling. Yuan describes this technique and system as a virtual private network (VPN) connection (column 11, line 60 – column 12, line 8) and it must include a registration reply with a VPN address to the mobile unit can perform the encapsulation of data packets.

**With respect to claim 23**, Yuan further discloses that when the mobile unit (118 of Figure 8) is using a default HA on an external network (154 of Figure 8) then the

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encapsulation and VPN technique is used (162, 166 of Figure 8) and the mobile unit must store the VPN address for the external home agent in order to conduct the encapsulation technique.

**With respect to claim 25**, Yuan further discloses a situation where the second home agent is a foreign or external home agent (178 of Figure 9).

**With respect to claim 26**, Yuan further discloses that when the mobile node (118 of Figure 7) is in an external network (112 of Figure 7) and the HA uses an internal address (154 of Figure 7), an MDIS device (152 of Figure 7) which acts as an encapsulation device is used for protocol tunneling. Yuan describes this technique and system as a virtual private network (VPN) connection (column 11, line 60 – column 12, line 8). Yuan also discloses using a secure connection with CDPD protocol (Figure 9; column 2, lines 46-58).

**With respect to claim 27**, Yuan further discloses completing registration (Figure 4) with the secure CPDP protocol (Figure 9; column 2, lines 46-58).

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 10, and 19 have been considered but are moot in view of the new ground(s) of rejection necessitated by the addition of "DHCP servers" and "multiple registration request" to each of the independent claims 1, 10, and 19.

### ***Conclusion***

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7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN T. O'CONNOR whose telephone number is (571)270-1081. The examiner can normally be reached on 9:00AM-6:30PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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